AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-10. (cancelled)

11. (currently amended) A method for operating a fuel cell system with a fuel cell stack that supplies electrical power to an external load, comprising:

monitoring actual stack operating voltage that is produced by said fuel cell stack;

monitoring actual stack operating current that is produced by said fuel cell stack;

looking up an expected high operating voltage value in a lookup table using said actual stack operating current of said fuel cell stack as a first lookup table reference;

comparing said expected high operating voltage value to said actual stack operating voltage value; and

generating a first signal if said actual stack operating voltage value exceeds said expected high operating voltage value.

12. (currently amended) The method of claim 11 further comprising:

looking up an expected low operating voltage value in said lookup table;

comparing said expected low operating voltage value to said actual stack operating voltage value; and

generating a second signal if said actual stack ~~voltage~~ operating voltage value is less than said expected low operating voltage value.

13. (previously presented) The method of claim 11 further comprising employing fuel cell stack temperature as a second lookup table reference.

14. (previously presented) The method of claim 11 further comprising employing fuel cell stack pressure as a second lookup table reference.

15. (currently amended) A monitor for a fuel cell system comprising:

a fuel cell stack;

a hydrogen source;

a voltage sensor that measures actual stack operating voltage that is produced by said fuel cell stack;

a current sensor that measures actual stack operating current that is produced by said fuel cell stack;

a lookup table that is accessed using said actual stack operating current of said fuel cell stack as a first lookup table reference and that provides an expected low operating voltage value; and

a first comparator that compares said expected low operating voltage value to said actual stack operating voltage value and that generates a first signal if said actual stack operating voltage value is less than said expected low operating voltage value.

16. (currently amended) The monitor of claim 15 wherein said lookup table provides an expected high operating voltage value and further comprising a second comparator that compares said expected high operating voltage value to said actual stack operating voltage value and that generates a second signal if said actual stack operating voltage value exceeds said expected high operating voltage value.

17. (previously presented) The fuel cell monitor of claim 15 wherein said table uses fuel cell stack temperature as a second lookup table reference.

18. (previously presented) The fuel cell monitor of claim 15 wherein said table uses fuel cell stack pressure as a second lookup table reference.

19. (currently amended) A monitor for a fuel cell system comprising:

a fuel cell stack;

a hydrogen source;

a voltage sensor that measures actual stack operating voltage that is produced by said fuel cell stack;

a current sensor that measures actual stack operating current that is produced by said fuel cell stack;

a lookup table that is accessed using said actual stack operating current of said fuel cell stack as a first lookup table reference, wherein said table provides an expected voltage and a low voltage variation limit;

a divider that generates an actual stack voltage variation by dividing said actual stack operating voltage by said expected stack voltage; and

a first comparator that compares said actual stack voltage variation to said low voltage variation limit and that generates a first signal if said actual stack voltage variation exceeds said low voltage variation limit.

20. (previously presented) The monitor of claim 19 wherein said lookup table provides a high voltage variation limit and further comprising a second comparator that compares said actual stack voltage variation to said high voltage variation limit and that generates a second signal if said actual stack voltage variation exceeds said high voltage variation limit.

21. (previously presented) The fuel cell monitor of claim 19 wherein said lookup table uses fuel cell stack temperature as a second lookup table reference.

22. (previously presented) The fuel cell monitor of claim 19 wherein said lookup table uses fuel cell stack pressure as a second lookup table reference.